

**WHAT IS CLAIMED IS:**

1. A wireless transceiver, comprising:  
an amplifier configured to receive an input RF signal,  
the amplifier including a biasing system;  
the biasing system including,  
a low noise amplifier (LNA) to amplify the input RF  
signal;  
a bias circuit configured to provide a bias output  
to the LNA during a time the LNA is operating in a first  
mode;  
a circuit configured to maintain the bias circuit in  
an operating state during a time the LNA is operating in  
a power down mode; and  
a switch circuit configured to switch the bias  
output from the LNA to the circuit when the LNA is  
powered down from the first mode to the power down mode.
2. The wireless transceiver of claim 1, wherein the  
circuit is operational only when the LNA is operating in the  
power down mode.

3. The wireless transceiver of claim 1, wherein the bias output is a bias current.

4. The wireless transceiver of claim 1, wherein the bias output is a bias voltage.

5. The wireless transceiver of claim 1, wherein the circuit is configured to maintain a lead to the bias circuit at a predetermined operating voltage level during a time the LNA is operating in the power down mode.

6. The wireless transceiver of claim 1, wherein the LNA consumes less power when operating in the power down mode than when the LNA is operating in the first mode.

7. The wireless transceiver of claim 1, wherein the wireless transceiver is compliant with an IEEE standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11e, 802.11g, 802.11h, and 802.11i, and 802.14.

8. A wireless transceiver, comprising:  
receiving means for receiving an input RF signal, the receiving means including a biasing system;

the biasing system including,

amplifying means for amplifying the input RF signal;

biasing means for providing a bias output to the  
amplifying means during a time the amplifying means is  
operating in a first mode;

maintaining means for maintaining the biasing means  
in an operating state during a time the amplifying means  
is operating in a power down mode; and

switching means for switching the bias output from  
the amplifying means to the maintaining means when the  
amplifying means is powered down from the first mode to  
the power down mode.

9. The wireless transceiver of claim 8, wherein the  
maintaining means is operational only when the amplifying  
means is operating in the power down mode.

10. The wireless transceiver of claim 8, wherein the  
bias output is a bias current.

11. The wireless transceiver of claim 8, wherein the  
bias output is a bias voltage.

12. The wireless transceiver of claim 8, wherein the maintaining means is configured to maintain a lead to the biasing means at a predetermined operating voltage level during a time the amplifying means is operating in the power down mode.

13. The wireless transceiver of claim 8, wherein the amplifying means consumes less power when operating in the power down mode than when the amplifying means is operating in the first mode.

14. The wireless transceiver of claim 8, wherein the wireless transceiver is compliant with an IEEE standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11e, 802.11g, 802.11h, and 802.11i, and 802.14.

15. A method for biasing a circuit to be powered down, the method comprising:

switching a bias output from a bias circuit coupled to a first circuit to a second circuit; and

maintaining the bias circuit at an operating state while the first circuit is powered down.

16. The method of claim 15, further comprising powering down the first circuit including reducing power consumption of the first circuit.

17. The method of claim 15, further comprising powering down the first circuit including shutting off current flowing through the first circuit.

18. The method of claim 15, wherein the first circuit is an LNA.

19. The method of claim 15, wherein the second circuit has a lower current draw than the first circuit.

20. The method of claim 15, wherein the second circuit is operational only when the first circuit is powered down.

21. The method of claim 15, wherein switching a bias output includes switching a bias current from the first circuit to the second circuit.

22. The method of claim 15, wherein switching a bias output includes switching a bias voltage from the first

circuit to the second circuit.

23. The method of claim 15, wherein maintaining the bias circuit at the operating state includes maintaining a lead to the bias circuit at a predetermined voltage level.

24. A biasing system for biasing a main circuit configured to operate in a first mode and a power down mode, the biasing system comprising:

a circuit configured to maintain a bias circuit in an operating state during a time a main circuit is operating in a power down mode; and

a switch circuit configured to switch a bias output of the bias circuit from the main circuit to the circuit when the main circuit is powered down from the first mode to the power down mode.

25. The biasing system of claim 24, further comprising the bias circuit configured to provide the bias output to the main circuit during a time the main circuit is operating in the first mode.

26. The biasing system of claim 24, wherein the bias output is a bias current.

27. The biasing system of claim 24, wherein the bias output is a bias voltage.

28. The biasing system of claim 24, wherein the main circuit consumes less power when operating in the power down mode than when the main circuit is operating in the first mode.

29. The biasing system of claim 24, wherein the circuit is configured to maintain a lead to the bias circuit at a predetermined operating voltage level during a time the main circuit is operating in the power down mode.

30. The biasing system of claim 24, wherein the main circuit is a LNA.

31. A biasing system for biasing a main circuit configured to operate in a first mode and a power down mode, the biasing system comprising:

maintaining means for maintaining a bias circuit in an

operating state during a time a main circuit is operating in a power down mode; and

switching means for switching a bias output of the bias circuit from the main circuit to the maintaining means when the main circuit is powered down from the first mode to the power down mode.

32. The biasing system of claim 31, further comprising the bias circuit configured to provide the bias output to the main circuit during a time the main circuit is operating in the first mode.

33. The biasing system of claim 31, wherein the bias output is a bias current.

34. The biasing system of claim 31, wherein the bias output is a bias voltage.

35. The biasing system of claim 31, wherein the main circuit consumes less power when operating in the power down mode than when the main circuit is operating in the first mode.



36. The biasing system of claim 31, wherein the maintaining means maintains a lead to the bias circuit at a predetermined operating voltage level during a time the main circuit is operating in the power down mode.

37. The biasing system of claim 31, wherein the main circuit is a LNA.